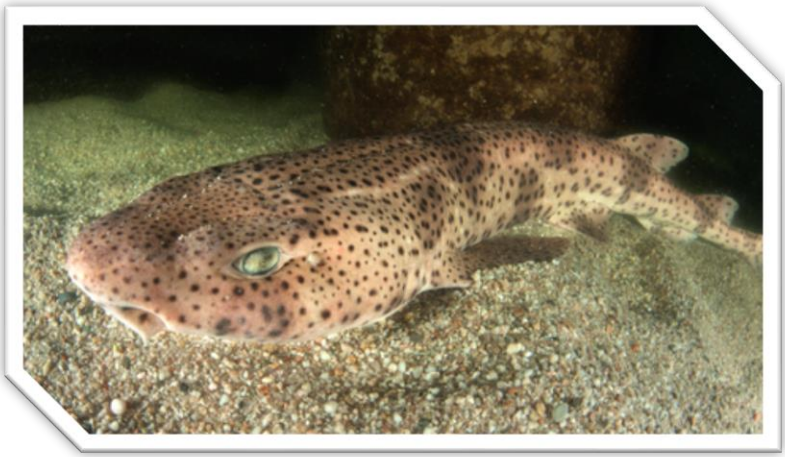
Sharks



Sharks are part of the group known as *Elasmobranchs* (Wilga et al., 2007). *Elasmobranchii* are one of the main groups of chondrichthyan fishes, next to *Holocephali* or chimeras (Wilga et al., 2007). Sharks are known as the *Selachii* sub-group within the larger group of the Elasmobranch, which also contains Rays and Skates (Wilga et al., 2007). It can be discussed whether or not sharks can be considered top-predators in the Wadden Sea, as this study found evidence of sharks being predated by other 'true' top-predators. This, however, only occurred very rarely and mostly when the sharks are not fully grown, which could suggest that full-grown sharks can be considered top-predators. For these reasons, this study will henceforth refer to sharks as 'near top-predators'. Some examples of species that can be found in the Wadden Sea are: Small-spotted catshark (*Scyliorhinus canicula*), Nursehound (*Scyliorhinus stellaris*), and the Common smooth-hound (*Mustelus mustelus*) (Ellis et al., 2008; Poiesz et al., 2021). No research was found that suggested that species have disappeared or invasive species that have taken hold in the Wadden Sea.

History/ Population trends

Throughout their evolutionary history over at least 400 million years, the cartilaginous fishes (*Chondrichthyes*) in general, and sharks in particular, remained major components of marine communities, having the ability to adapt to varying selective pressures (Wilga et al., 2007). However, elasmobranchs are considered particularly vulnerable to anthropogenic pressures as their life-history traits result in low rates of population growth (Walker & Hislop, 1998; Sguotti et al., 2016). To grasp the extent to which humans can affect Elasmobranchii, there have been data reviews and surveys made on the group since the late 20th century. According to the information that was gathered elasmobranch landings have fluctuated between high and low landings since the 1930s, seeing relative stabilization in the years following 1970 (Walker & Heessen, 1996).

Miscellaneous

- The Basking shark is the second largest species of fish in the world (Austin et al., 2019). The largest species of fish in the world is the Whale shark (*Rhincodon typus*)(Colman, 1997).
- Sharks frequently lose and replace their teeth throughout their life (Enax et al., 2012).

Diet

- Herring (Wilga et al., 2007)
- Sprat (Wilga et al., 2007)
- Sandeel (Wilga et al., 2007)
- Crustaceans (Wilga et al., 2007)
- Cephalopods (Wilga et al., 2007)
- Flatfish (Wilga et al., 2007)
- Annelida (Wilga et al., 2007)
- Zooplankton (Wilga et al., 2007)

Sources

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